

REMARKS

In the Office Action mailed on February 16, 2005, claims 1-21 are also rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended the claims as suggested by the Examiner to overcome the rejection. Claims 1-21 are also rejected under 35 USC §103(a) as being unpatentable over the combination of Mehring (U.S. Patent 5,675,729) and Jones et al. (U.S. Patent 6,356,960, "Jones"). Claims 22 and 23 are considered allowable subject matter if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response to the rejection of the claims under 35 USC §103(a) in view of Mehring and Jones, Applicant has amended each of the independent claims 1 and 7 to include steps of:

- (i) implementing logic functions in the programmable hardware;
- (ii) detecting signals generated by the programmable hardware; and
- (iii) recognizing an occurrence of a user-specified event generated by the programmable hardware;

Applicant has also amended independent claim 13 to include means to implement logic functions in the programmable hardware and means to detect signals generated by the programmable hardware. Also, the means to recognize an occurrence comprises means to recognize an occurrence of a user-specified event generated by the programmable hardware.

Applicant respectfully submits that the claims as amended clearly distinguish over any combination of the cited references. Each of Applicant's claims relates to diagnosing programmable hardware. The claims as amended more clearly indicate that the programmable hardware is being diagnosed, in contrast to the primary reference which uses programmable hardware to diagnose the operation of a processor. The primary reference Mehring is directed to a method of performing an

on-chip measurement of a component such as a processor, and uses programmable hardware (i.e. configurable trigger logic) to output a trigger signal to corresponding counter logic which stores a count of an event. According to one aspect of Mehring, a sophisticated counting mechanism implemented in programmable hardware monitors events. However, as can be seen in Figs. 1a, 1b and 2, the programmable hardware of Mehring is used to detect events, but does not generate the user specified event as claimed by Applicant. That is, the programmable hardware of Mehring does not generate the signals which are recognized as user-specified events. Further, Mehring fails to disclose or suggest accessing the static state of the programmable hardware through the debug port. Rather, after a breakpoint signal causes the stopping of the system clock, an internal scan can be performed to determine the state of the processor. However, there is not teaching or suggestion that the static state of the configurable trigger logic is accessed through the debug port.

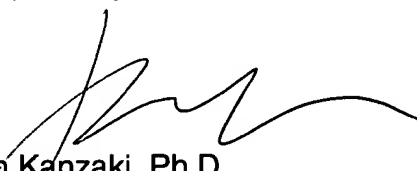
Jones also fails to disclose or suggest Applicant's claims, alone or in combination with Mehring. Jones is cited for disclosing a configurable system logic on a chip integrating a central processing unit, an internal system bus, and configurable logic. Although it is suggested in the Office Action that the event logic 44 comprises configurable logic, there is no teaching or suggestion in Mehring that event logic 44 comprises configurable logic or programmable hardware as claimed. The only reference to programmable hardware in Jones is the suggestion that the "external host may comprise a computer or a computer device such as a programmable logic array." (Col. 15, lines 36-37). Accordingly, any combination of Mehring and Jones would not lead to Applicant's invention as claimed. Applicant further submits that dependent claims 2-6, 8-12 and 14-23 are allowable for the same reason that the independent claims are believed allowable.

CONCLUSION

All claims should be now be in condition for allowance and a Notice of Allowance is respectfully requested.

If there are any questions, the Applicant's attorney can be reached at Tel: 408-879-6149 (Pacific Standard Time).

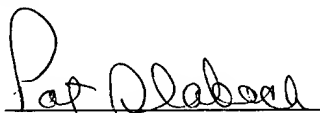
Respectfully submitted,



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*I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on May 16, 2005.*

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Name



Signature